Delcan

TRANSPORTATION • INFORMATION TECHNOLOGY • WATER

networks

NETworks® ATMS

California 511 Workshop #8
Acquiring Flow Data for
Urban Arterials, Rural Highways

Presented by:
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Presentation Overview

▶ NETworks® Description

▶ Where is it being used?

▶ System Modules

▶ Data Collection

▶ Data Dissemination

Description

- Delcan's custom developed software application used for Advanced Transportation Management
  - Web-based, Customizable Application
  - Collects data from numerous different sensors and sources
  - Operates as freeway, arterial/signal, transit, emergency operations, and ATIS/511 system
- Interfaces and Integrates multiple transportation systems
  - Freeway, Arterial, Transit, Emergency and Weather Management Systems

Who is using NETworks®?

NETworks R5

OCTA 91 Express Lanes
Caltrans District 10
Southbay Expressway
Caltrans D4 (C2C/511)
Nebraska Statewide ATMS
NHDOT Statewide ATMS
Michigan Statewide ATMS
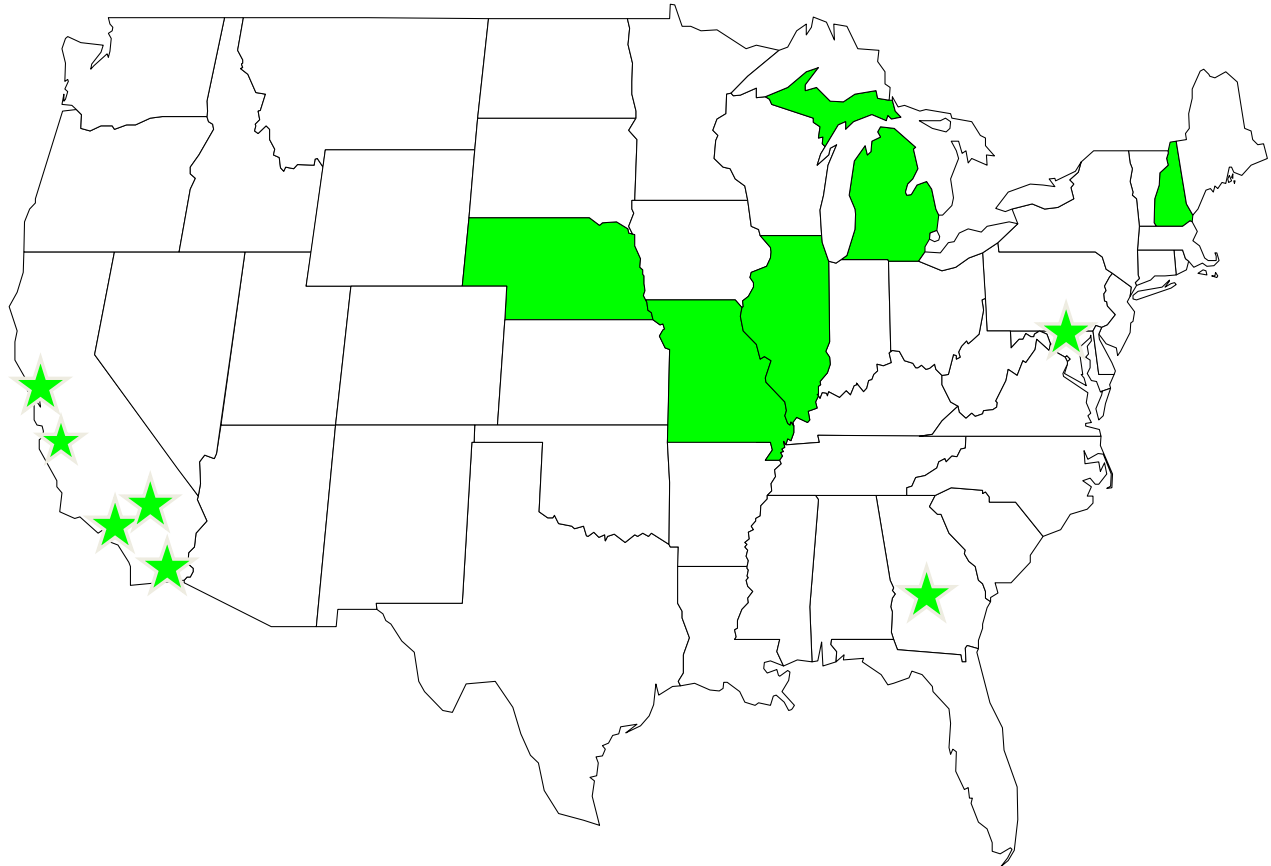Illinois AMBER Alert
MoDOT Statewide
East St. Louis
Greece (Thessaloniki)
Durban South Africa
Cyprus ATMS
Baltimore MMTIS
Georgia

Modules

NETworks® is purchased and deployed in a modular fashion. Users can purchase a license with one or more modules and have it customized to their specific needs.

Map	Admin	Security	Video	DMS	RWIS/ESS	VDS	ATIS/511	C2C
Data Archiving & Reporting	Event Management	Response Plans	Congestion Signing	AVL	HAR	Traffic Signal	PDA	Ramp Metering

Communication Layer

Web-based User Interface

Base Architecture Hardware and Software

Map/GUI
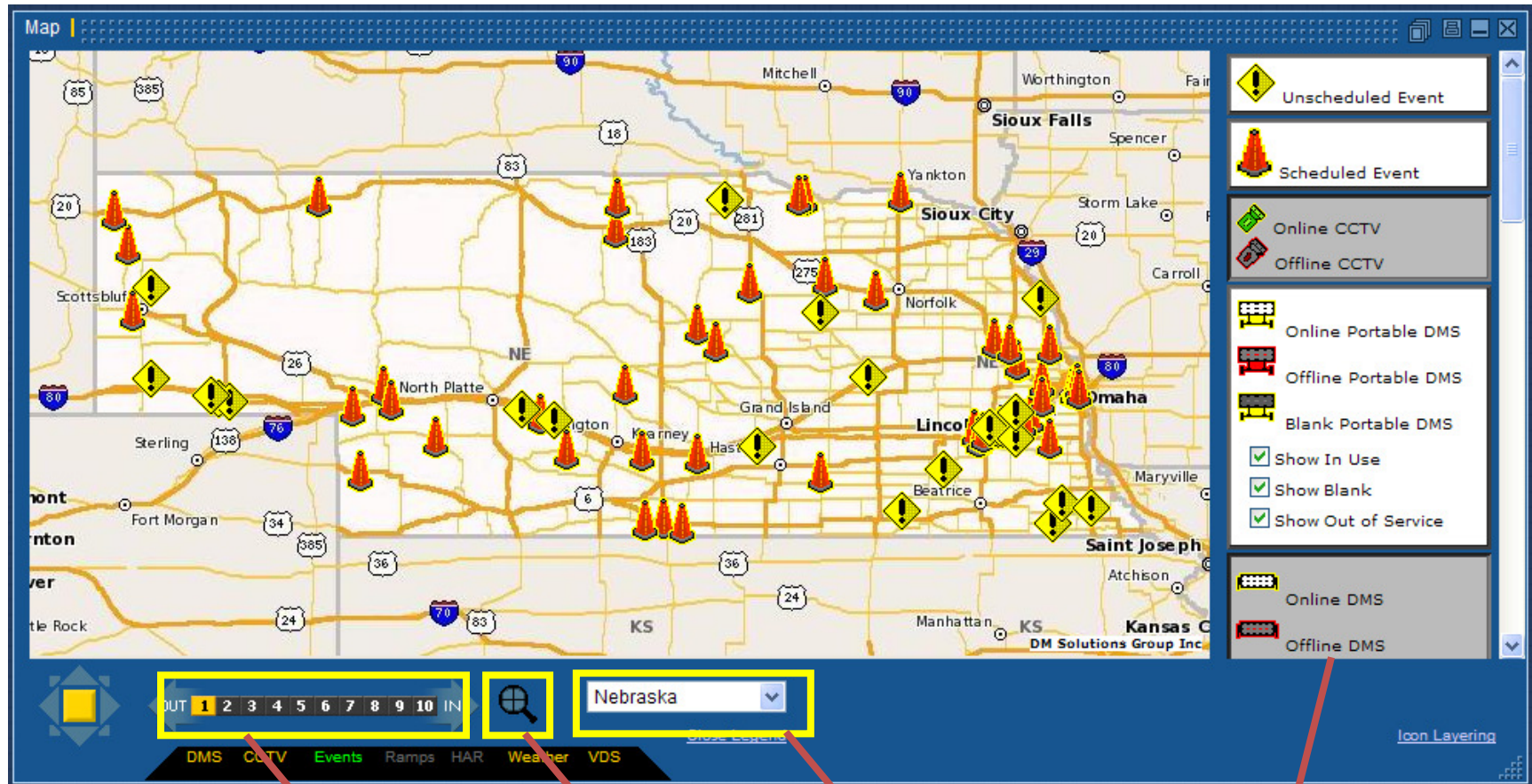
Ten (10) Selectable Zoom Levels

Rectangle Zoom

Preset Zoom Levels

Hideable Legend with Icon Layer Selection

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CCTV Control

View and control 8+ CCTV cameras simultaneously via web
• **Set presets**
• **Video Wall Control**

• **Image Hover/Drag/ Slide CCTV Control**

DMS Control

DMS Control and DMS message library screens

Weather Monitoring

- **Polls data from weather sensors**
- **Monitors weather alarms**
- **Anti-icing control**
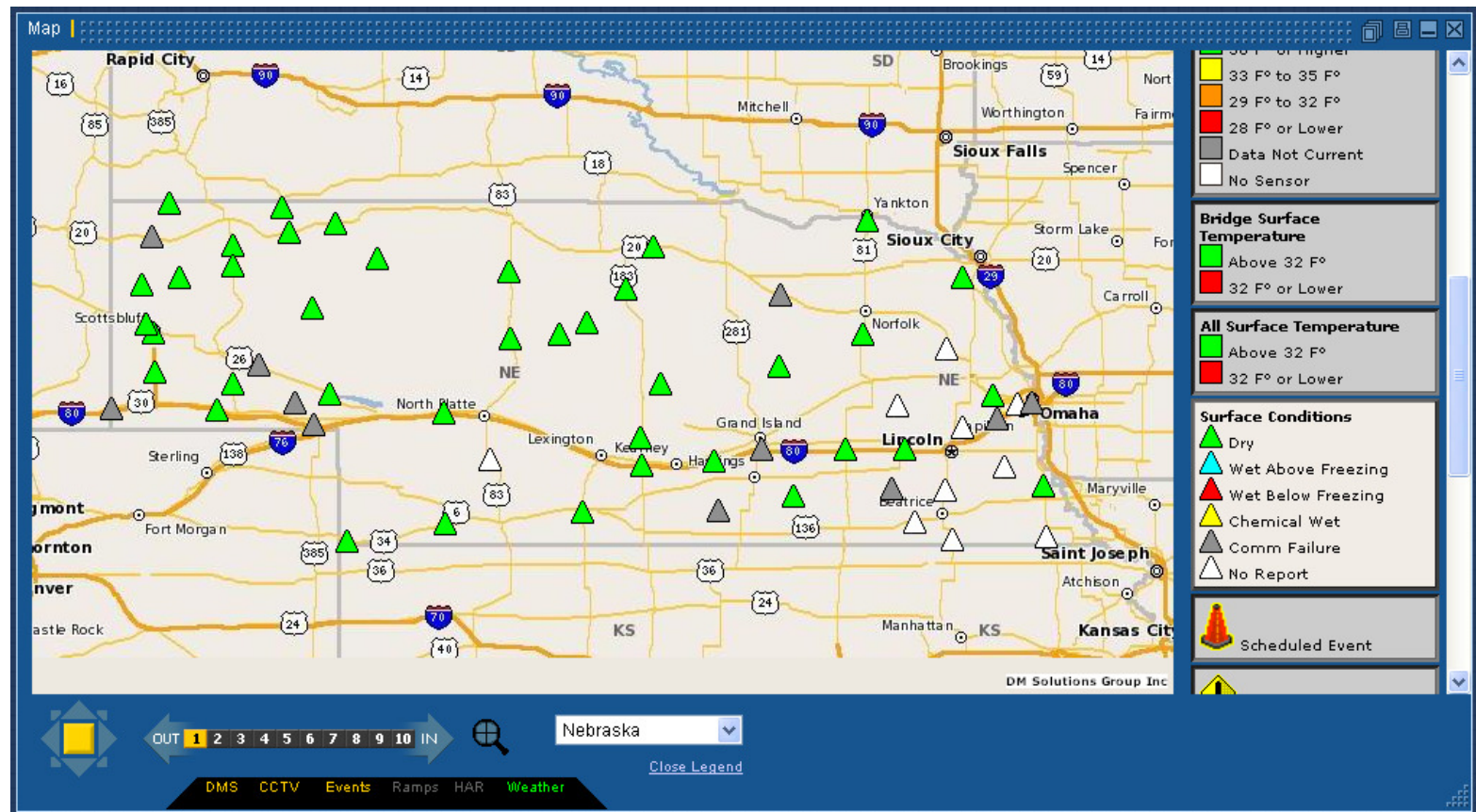
Nebraska Weather Sensors (Surface Conditions Icons)

Weather Forecasting

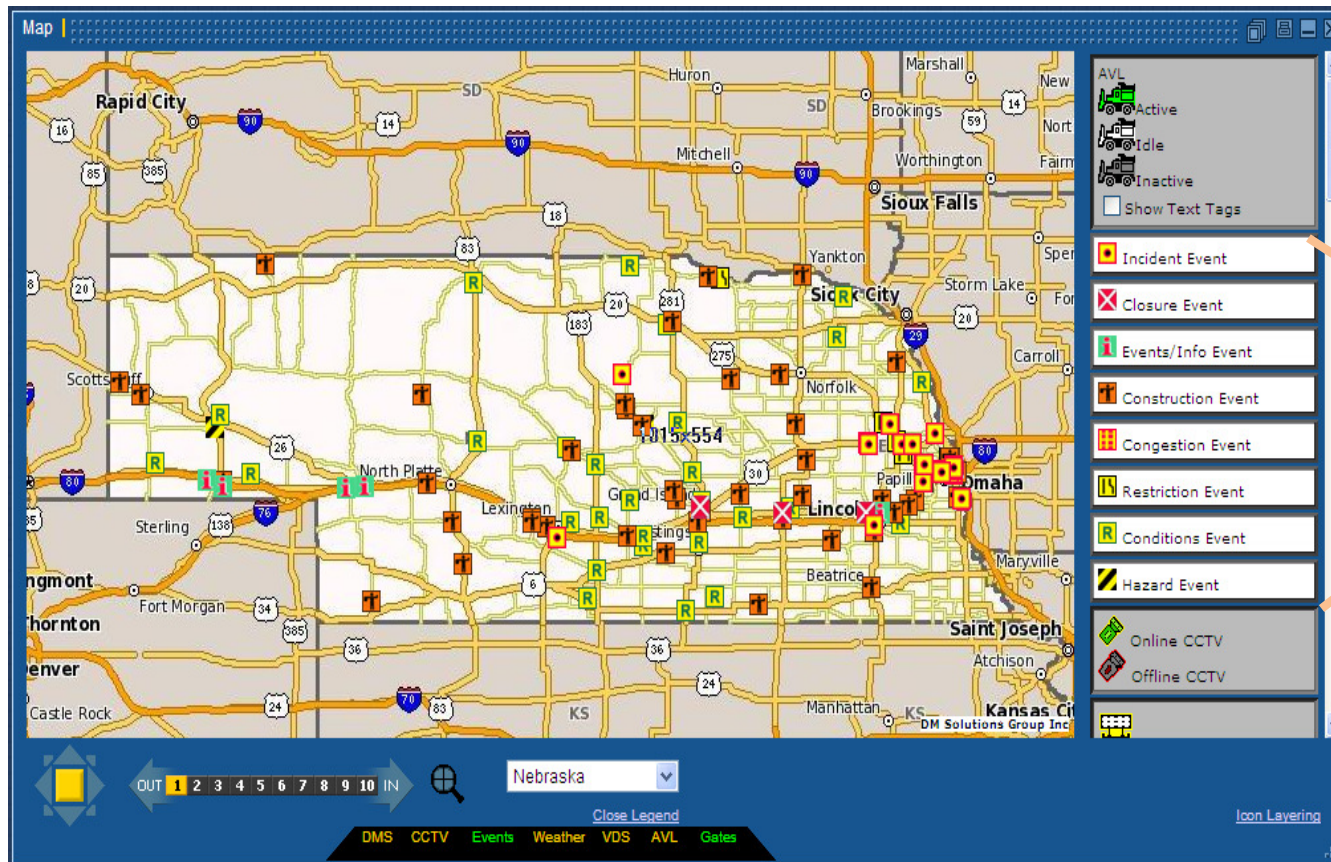**Obtains weather information from the National Weather Service and other sources**

Event Managament

Add any different event types or icons

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Event Response Plans

Event Notification

Sends e-mails, text messages, pages and phone messages to the designated contact list names and/or groups

Acquiring Flow and Congestion Data – Arterials and highways

1. **Interfaces directly with Vehicle Detection Systems/Sensors (VDS)**
   - Inductive Loops
   - Microloops (3M)
   - RTMS Radar
   - Wavetronix
   - InfoTek ILDA
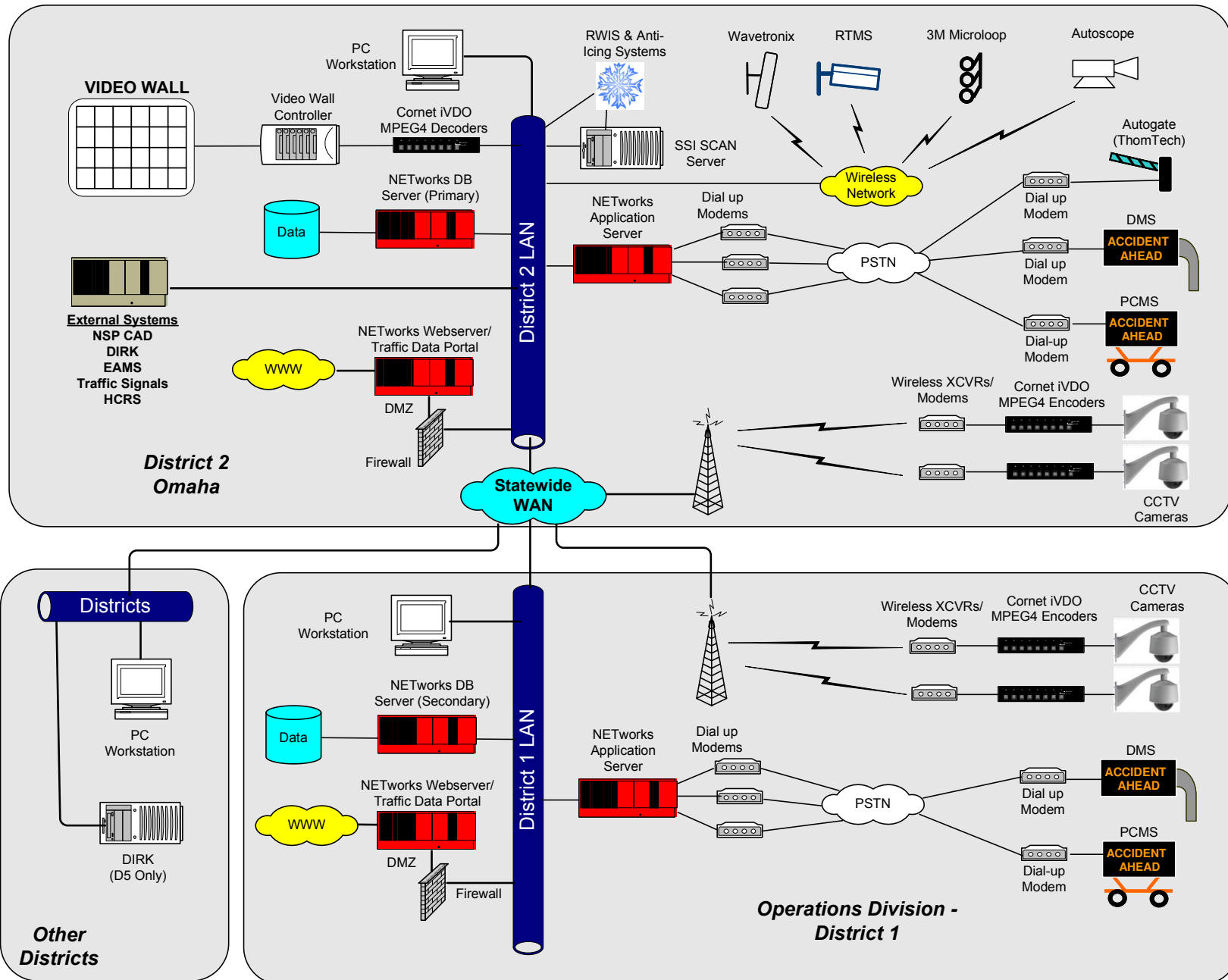   - Autoscope
   - Sensys
   - etc.

2. **Interfaces with Sensor system via data collection subsystems (e,g. web services feeds)**
   - SpeedInfo
   - Sensys Networks

3. **Interfaces with vehicle probe system**
   - Cellular Probe Data
   - Fleet Vehicle GPS Probe Data
   - VII data sources (soon)
   - Direct Fleet Vehicle Interfaces
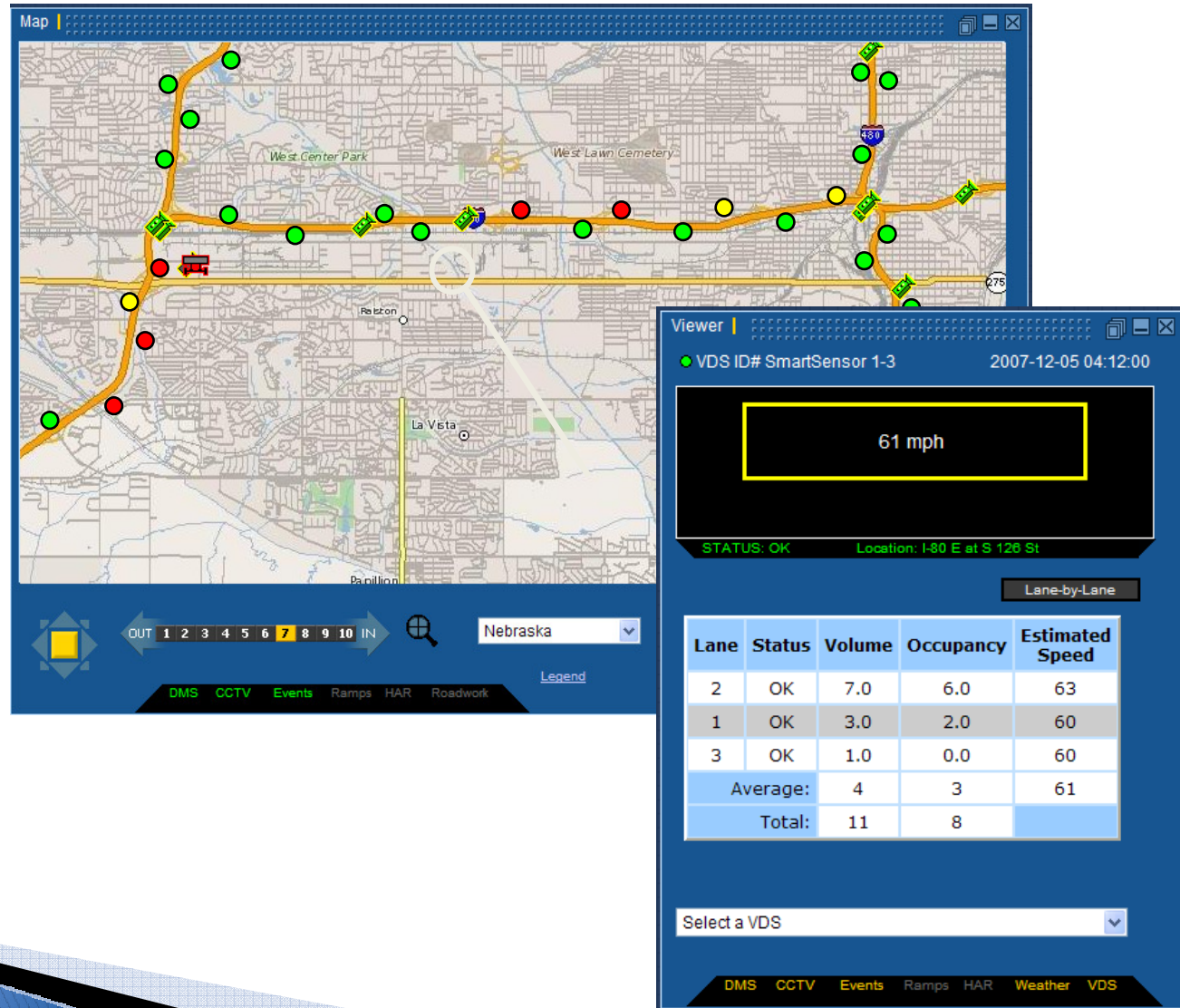
Nebraska Department of Roads

District 2 Omaha

VIDEO WALL

PC Workstation

Video Wall Controller

Cornet iVDO MPEG4 Decoders

RWIS & Anti-Icing Systems

Wavetronix

RTMS

3M Microloop

Autoscope

Wireless Network

SSI SCAN Server

Autogate (ThomTech)

Data

NETworks DB Server (Primary)

District 2 LAN

NETworks Application Server

Dial up Modems

Dial up Modem

DMS

ACCIDENT AHEAD

PSTN

Dial up Modem

PCMS

ACCIDENT AHEAD

Dial-up Modem

External Systems
NSP CAD
DIRK
EAMS
Traffic Signals
HCRS

WWW

NETworks Webserver/ Traffic Data Portal

DMZ

Firewall

Wireless XCVRs/ Modems

Cornet iVDO MPEG4 Encoders

CCTV Cameras

Statewide WAN

Other Districts

Districts

PC Workstation

DIRK (D5 Only)

Operations Division - District 1

PC Workstation

Data

NETworks DB Server (Secondary)

District 1 LAN

NETworks Application Server

Dial up Modems

WWW

NETworks Webserver/ Traffic Data Portal

DMZ

Firewall

PSTN

Dial up Modem

DMS

ACCIDENT AHEAD

Dial-up Modem

PCMS

ACCIDENT AHEAD

Wireless XCVRs/ Modems

Cornet iVDO MPEG4 Encoders

CCTV Cameras

Vehicle Detector System (VDS) Module

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Interfaces with multiple vehicle detection/roadway monitoring devices
- **Inductive Loops**
- **InfoTek ILDA**
- **Microloops**
- **RTMS**
- **Wavetronix**
- **Autoscope**
- **Sensys**
- **Speedinfo**
- **Cell probes**
- **GPS Probes**
- **etc.**

Map |

OUT 1 2 3 4 5 6 7 8 9 10 IN   Nebraska

DMS   CCTV   Events   Ramps   HAR   Roadwork

Legend

Viewer |

● VDS ID# SmartSensor 1-3   2007-12-05 04:12:00

61 mph

STATUS: OK   Location: I-80 E at S 126 St

Lane-by-Lane

Lane	Status	Volume	Occupancy	Estimated Speed
2	OK	7.0	6.0	63
1	OK	3.0	2.0	60
3	OK	1.0	0.0	60
Average:		4	3	61
Total:		11	8	

Select a VDS

DMS   CCTV   Events   Ramps   HAR   Weather   VDS

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Fleet Vehicle Tracking/AVL
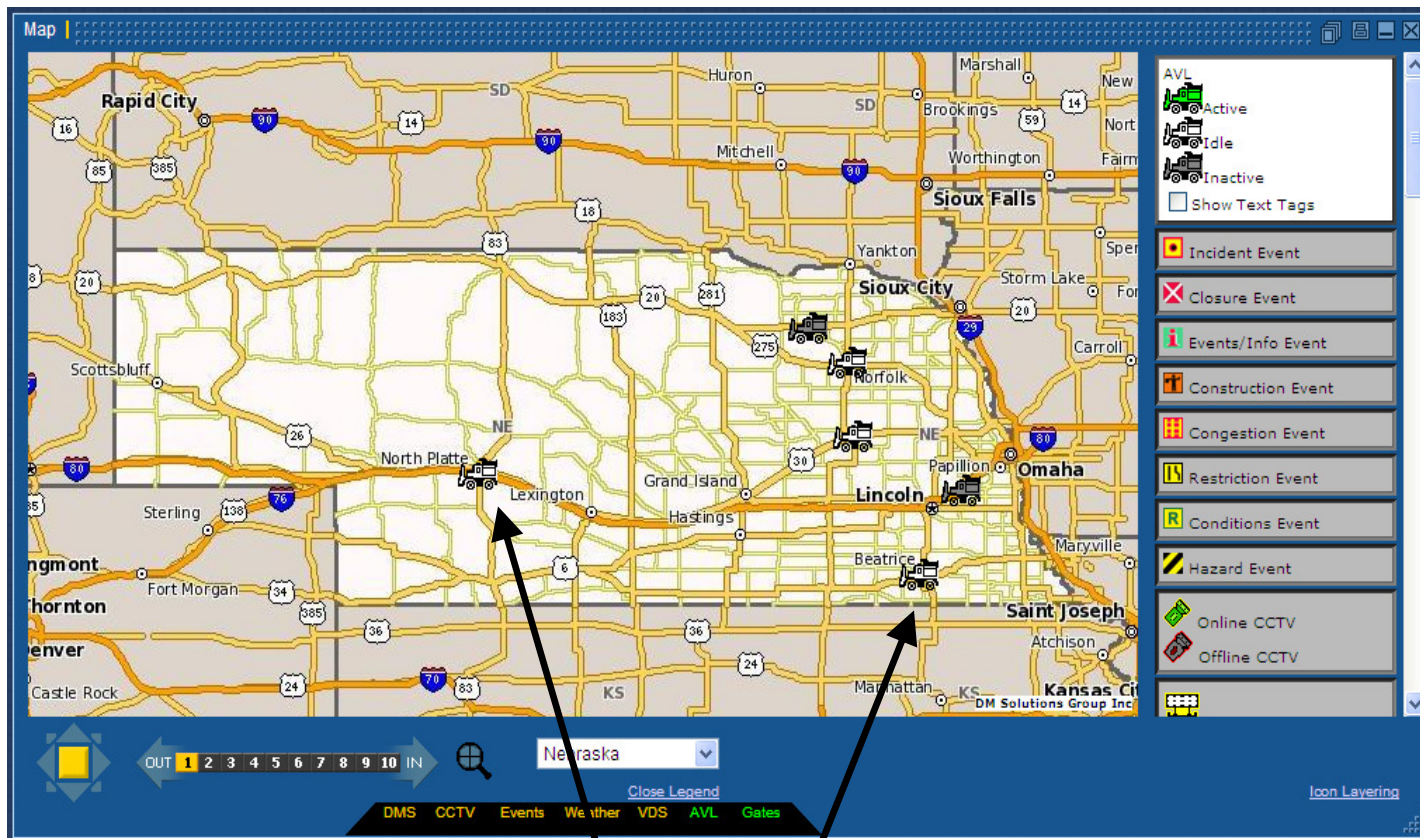
Track locations of fleet vehicles and their status information

VDS Probe Point Data
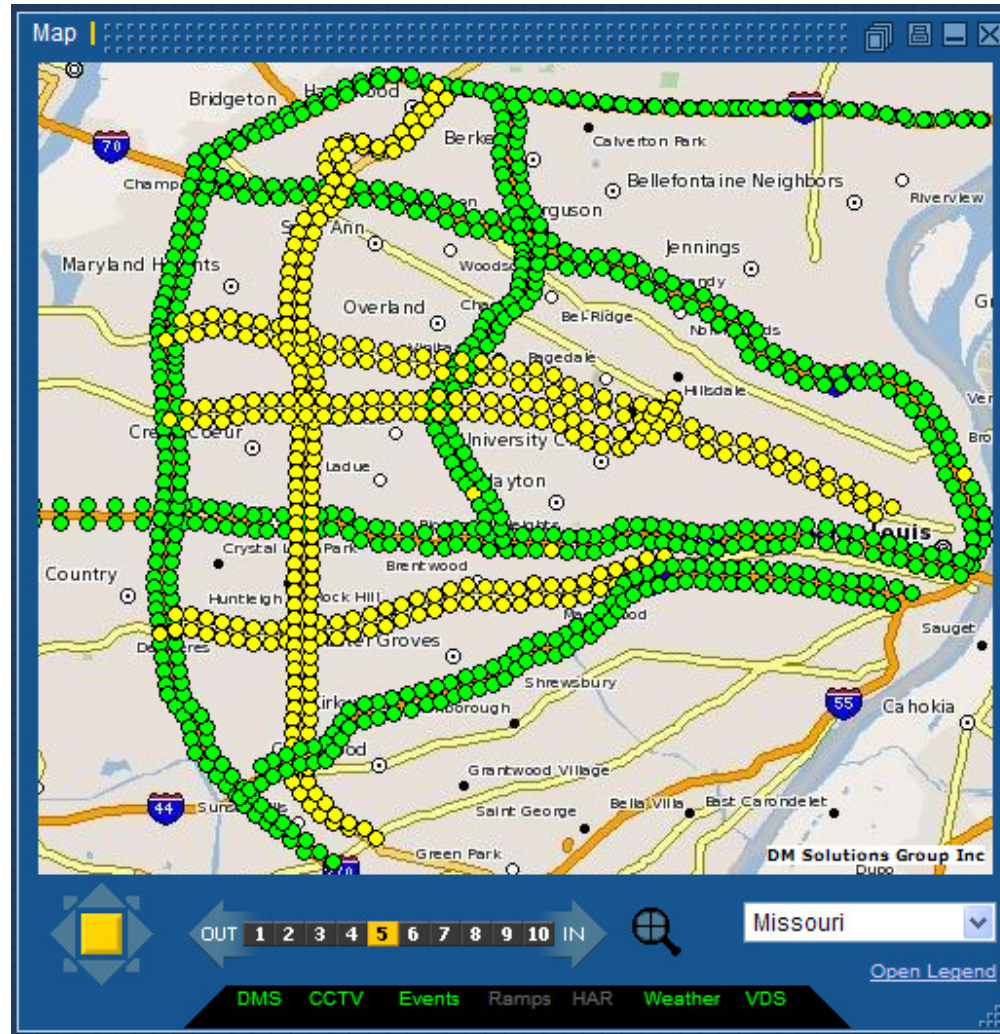
VDS Probe Point Data

VDS Probe Segment Data (St. Louis)
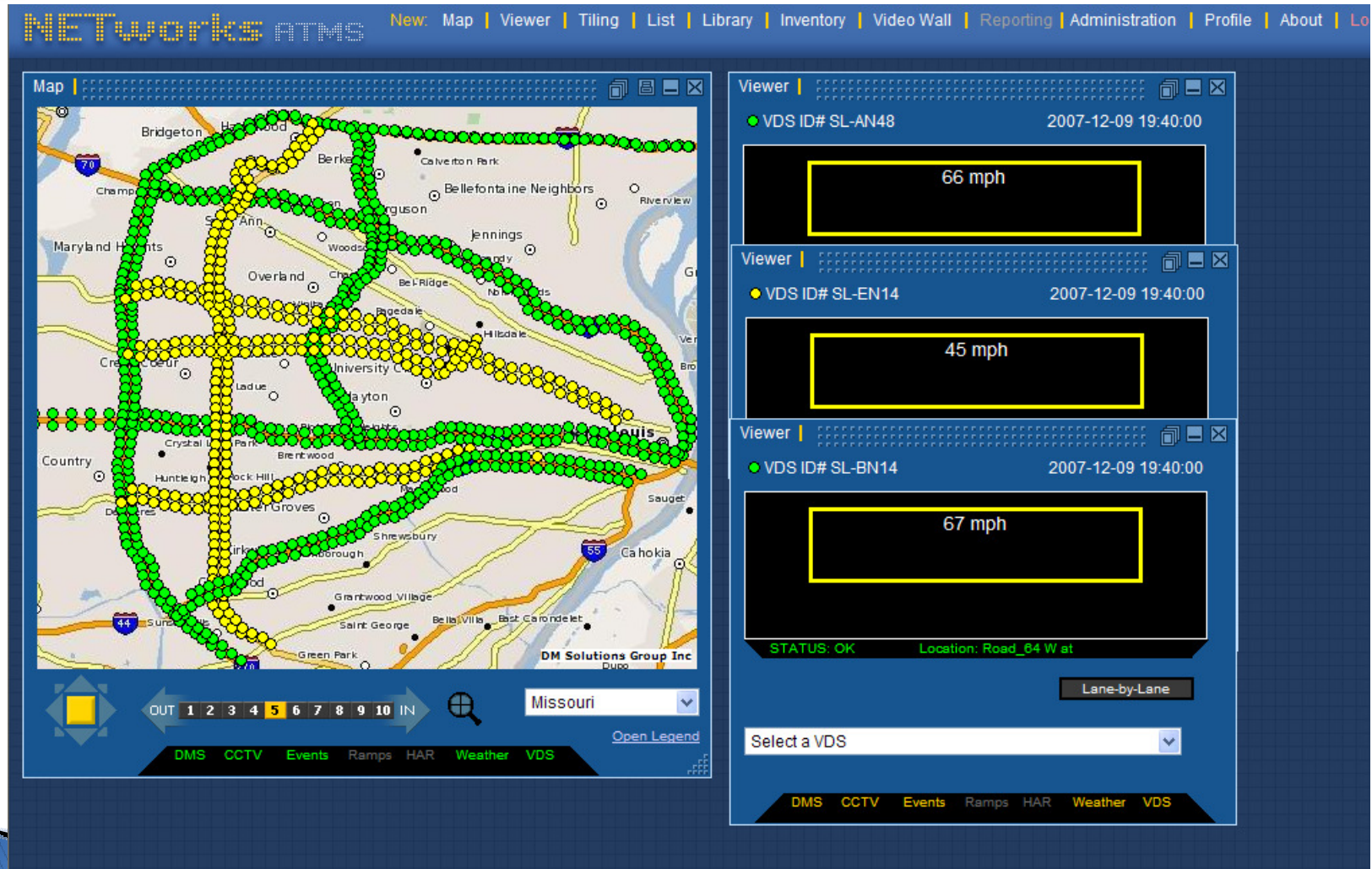
VDS Probe Segment Data (KC)
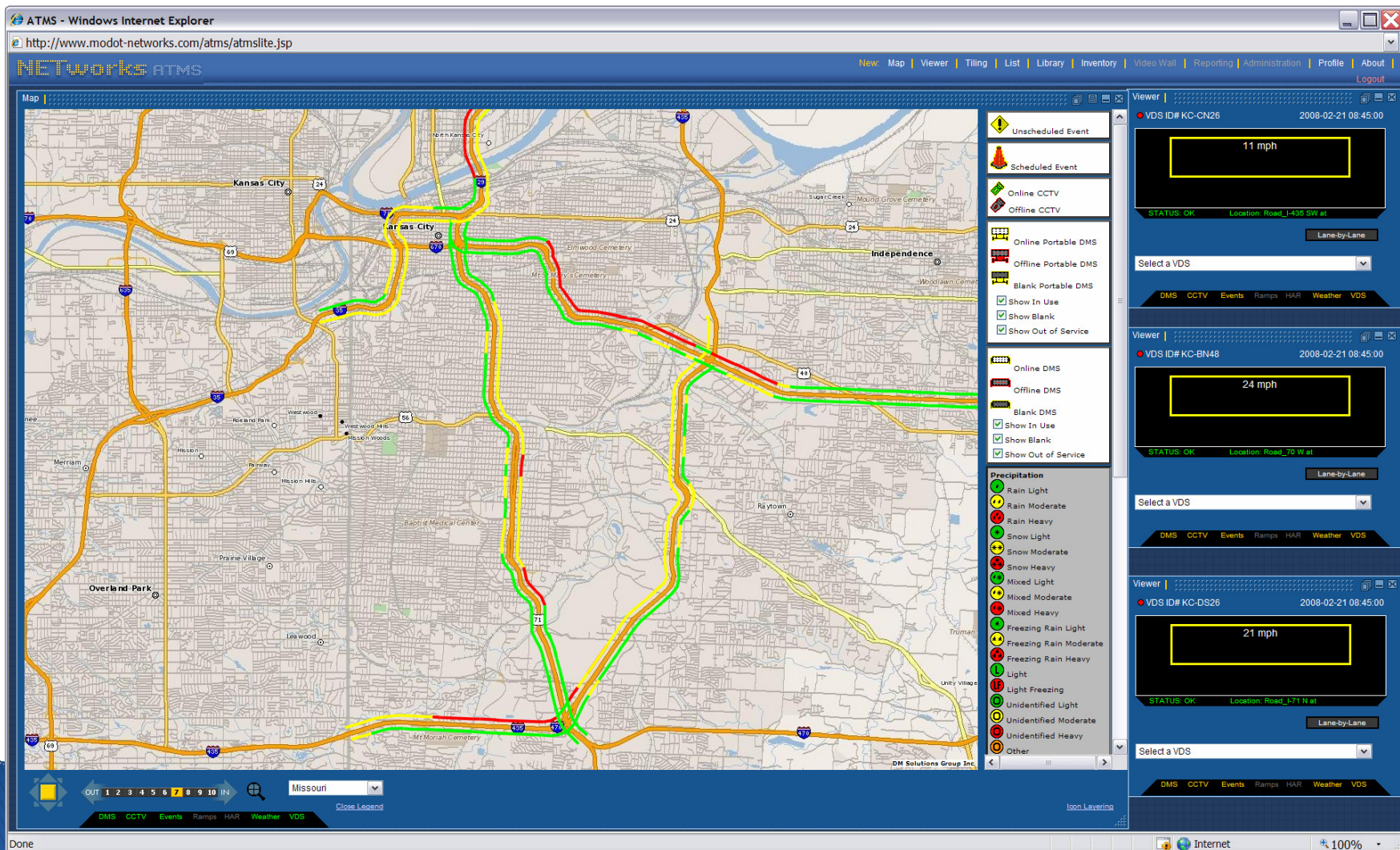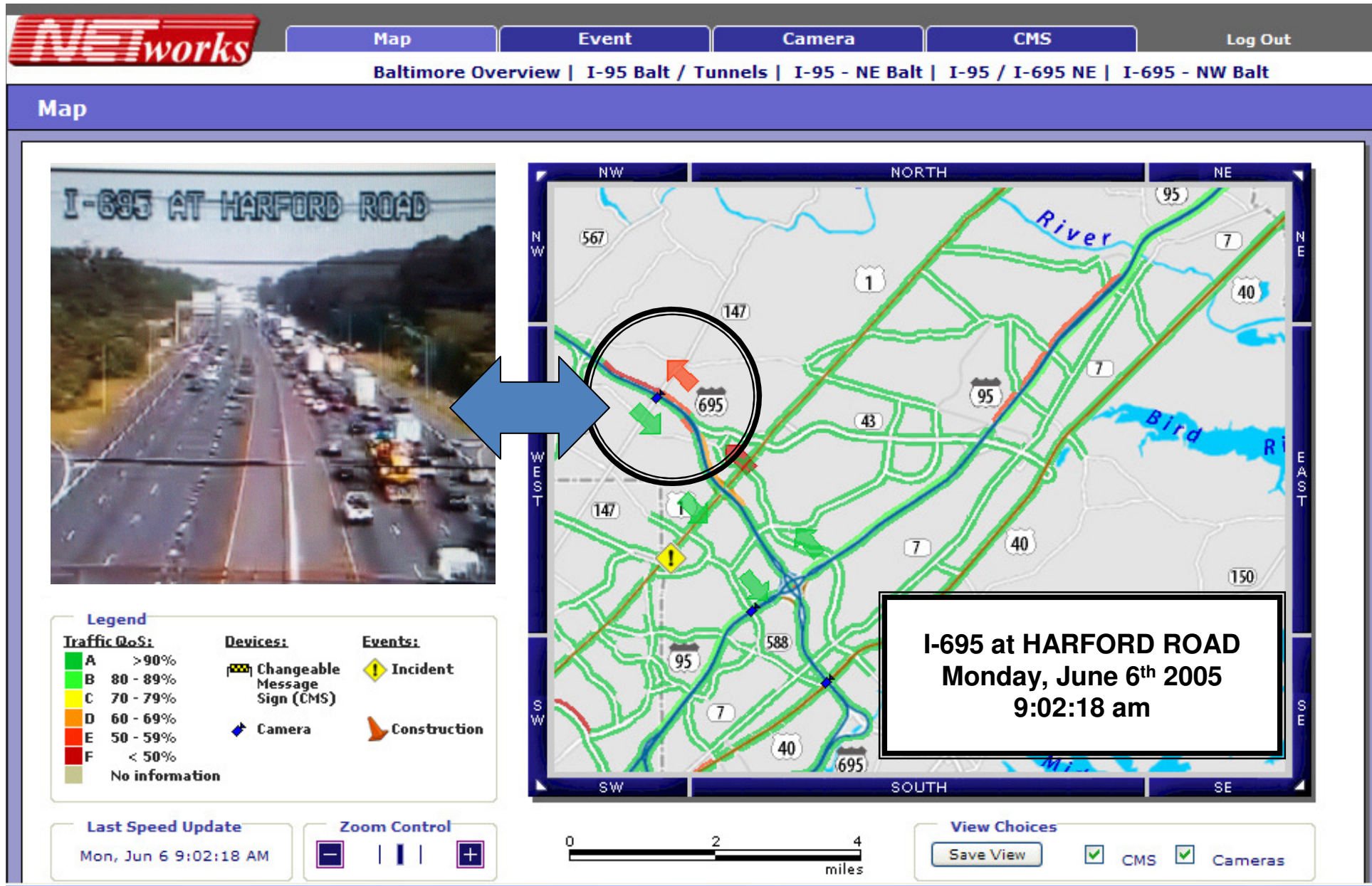
VDS Probe Segment Data (KC)

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MARYLAND DOT CAMERAS SHOW ACCURACY OF TRAFFIC INFORMATION BEING CAPTURED USING CELL PROBES

CELL PROBES ACCURATELY UPDATE
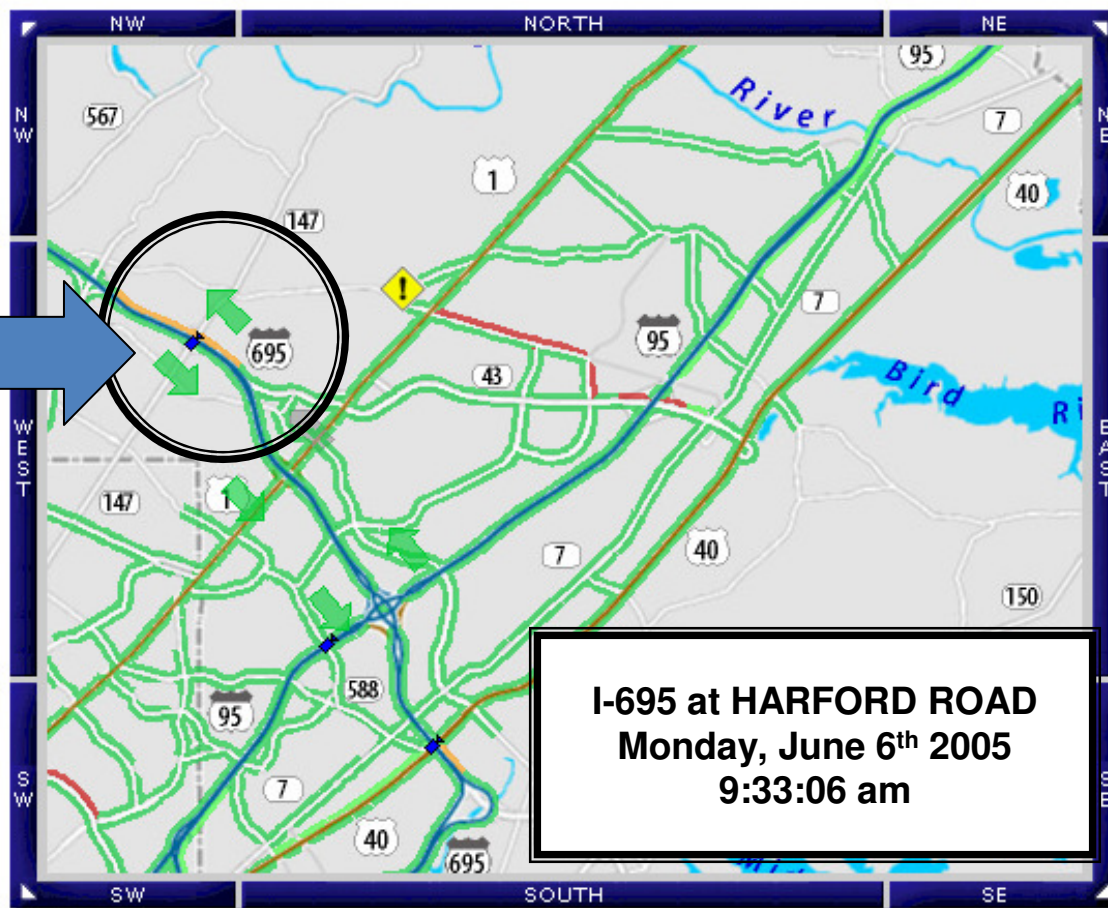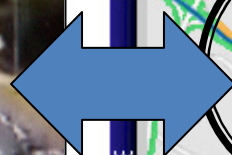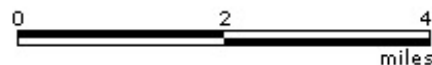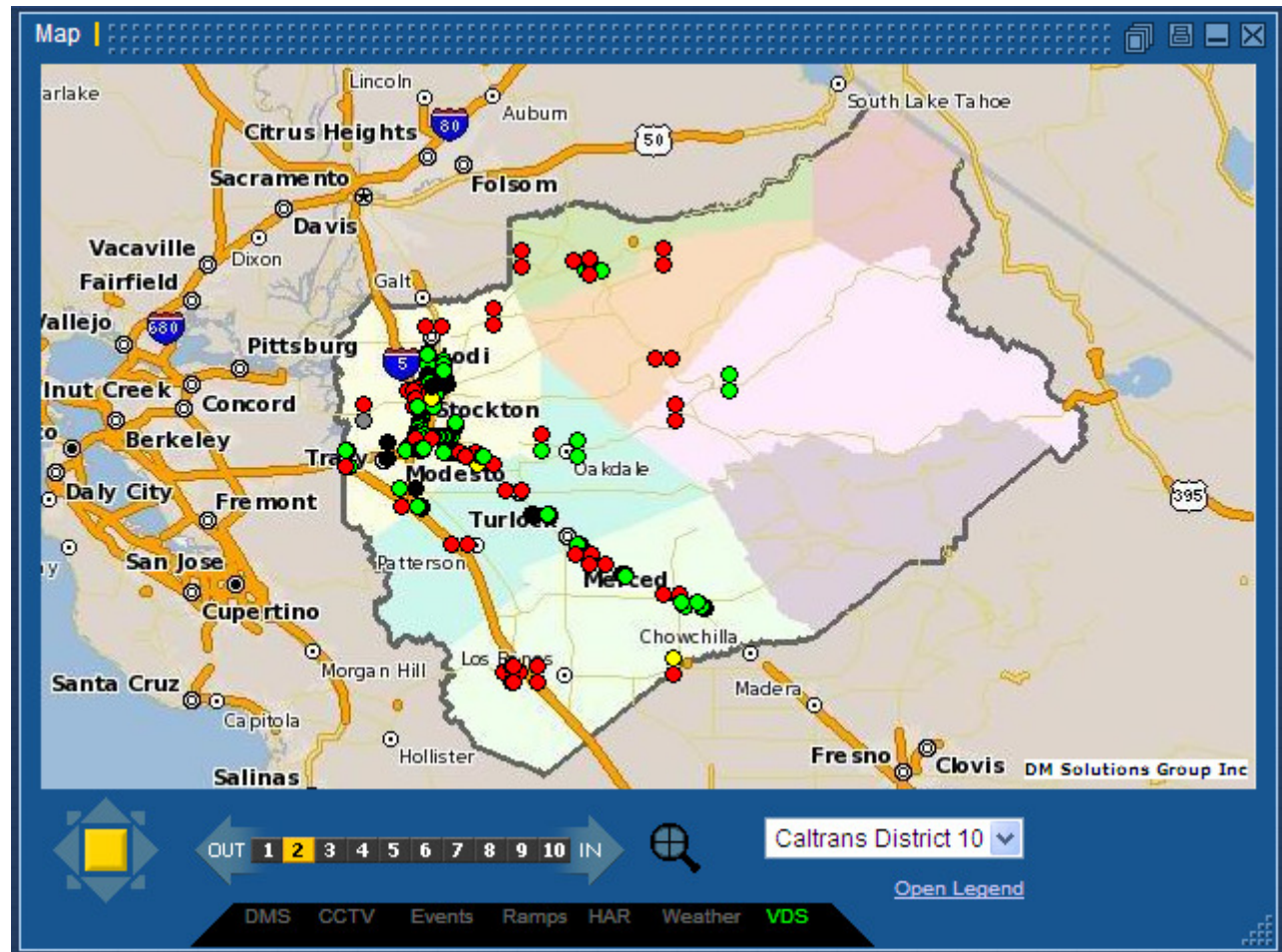# TRAFFIC CONDITIONS AS CHANGES OCCUR

Caltrans District 10

Interfaces with 190 different sensors using InfoTek Wizard

-**Inductive Loops (ILDA)**

- **RTMS**

- **Wavetronix**

- **TIRTL**
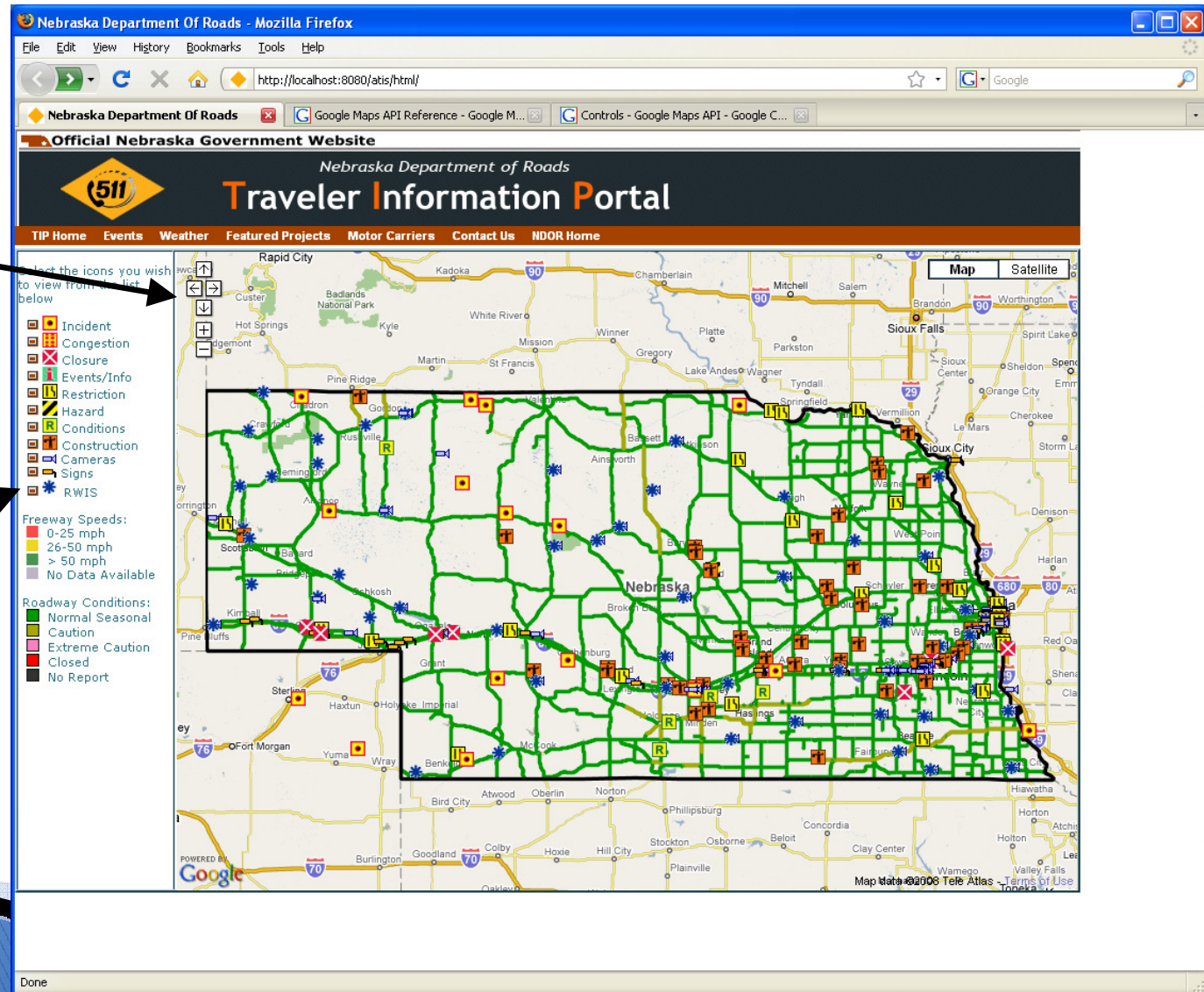

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Flow Data Dissemination

- Three (3) means
  - ATIS/511 Websites
  - XML Web Services data feeds
    - (Delcan is doing this for San Diego, LA, Nebraska, Illinois, New Hampshire, Oregon, Georgia and soon San Francisco and Oakland)
  - Real Time Travel Time Dissemination (e.g. DMS display)

ATIS/511 Websites

Google Maps Engine

Toggle Layers

ATIS/511 Websites

Current Roadway Sign Messages and Status

Contact Info:

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